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III: Remarks

Claims 17-32 are pending in the application.

Claim Rejections -35 USC §103

Claims 17-32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtman et al. (US 5,897,946).

The examiner states that Nachtman et al. teaches a composite coated particle and method of making the particle, where the particle comprises a core which may be of iron ore and a sealing layer which may be formed of a mixture of clay materials and pozzolanic materials where the clay material may be bentonite clay and the pozzolanic material may be Portland cement.

The examiner states that Nachtman et al also discloses particle sizes and composition ranges broadly encompassing those instantly claimed, and a method of making the particles where the composite particles are formed by contacting the core materials with an aqueous mixture of the sealing layer materials.

The examiner acknowledges that Nachtman et al. does not specifically recite that the core be iron ore and the coating (sealing) layer be bentonite and Portland cement. However, the examiner argues that it has been well settled that where the applied prior art teaches a range of compositions or properties overlapping a claimed range, motivation to select a particular range or value within the range disclosed by the applied prior art would have been a modification obvious at the time the invention was made.

The examiner concludes that since Nachtman et al specifically teaches that iron ore is useful for the core of it's claimed composite particle and a mixture of clay materials, including bentonite clay, and pozzolanic materials, including Portland cement are useful as the sealing layer of the composite particle, motivation to employ these components as the core and sealing layer materials of Nachtman al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

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Applicants respectfully disagree.

Nachtman relates to non-analogous art. The law relating to a generic description of a range of compositions rendering obvious a later specific composition within that range relates to composition claims, not to instances where a species within a generically described range is claimed in a method different from and unrelated to that disclosed in the prior generic description.

Applicant is claiming a process for increasing the usefulness of iron ore in a direct reduction process.

Nachtman et al. is entitled "Flowable Material to Isolate or Treat a Surface." The surface Nachtman is referring to is a contaminated underwater or land surface. Natchtman et al. states that their invention "generally relates to materials for isolating or treating a surface, and more particularly to a flowable material for forming a barrier layer having low permeability over a contaminated underwater surface or a land surface. [col. 1, lines 15-18] Nachtman et al.'s "flowable material comprises a plurality of composite particles. Each of the composite particles includes a core, preferably formed of a piece of gravel of other inert material, such as glass cullet or crushed glass [col. 2, lines 23-28].

Nachtman et al. goes on to state that "The core must be dense because it acts as a carrier of the composite particle to the isolated or treated surface. Examples of suitable materials for forming the core include pieces of rock or stone, iron ore, slag, glass cullet, crushed glass or crushed porcelain. Preferably, the core of the composite particle is formed of a piece of gravel". [col. 3, lines 31- 37]

This means that the iron ore – which is one of the materials that could act as a core – is part of the flowable material and it is used as carrier (because its high density) of the composite particle. which must have specific gravity greater than one" (to sink into the water).

Therefore, the aim of the Natchtman et al.'s invention is the production of a flowable material for forming a barrier layer of low permeability (to water) over a contaminated underwater or a land surface. It is very clear then that iron ore is specified to act as a carrier and is one of the

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components of the flowable material (or coating material), it is not the object to be isolated [unlike in applicant's process where it is]. The final purpose of the composite particles of Nachtman et al. is to form a block that would isolate the sediments in contaminant water. The pozzolanic material would be used to harden the block that would form a barrier layers in water

Completely distinct is the aim of the process described in the present application, in which the iron ore (pellet) is the object to be isolated by the coating material to be submitted to the direct reduction process, which environment (high temperature, hydrogen, carbon monoxide, etc) is completely different from the process disclosed by Nachtman et al (underwater and land surface). This is most clearly shown in claim 29 which is limited to a process for reduction of the ferrous materials, which is not in any way addressed by Nachtman et al., or in claims 30-32 which also specifically relate to limiting agglomeration during reduction.

Therefore, a person having an ordinary skill in the art would not conclude that the process described in the Nachtman et al. would be suitable for use in the reduction of iron ore. The present application is not an extension of Nachtman et al.'s invention. In the present application, the cement is used to harden the non-hardenable material at pellet surface and after that, to provide improvements in coating adherence.

Conclusion

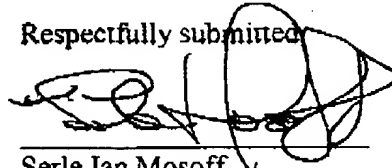
In view of the foregoing discussion, it is respectfully submitted that the present invention as defined in the pending claims 17 to 32 is in full compliance with all the statutory requirements,

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and therefore, it is earnestly requested that the Examiner's rejections be withdrawn and the pending claims be allowed in their present form.

Any fee due with this paper, not fully covered by an enclosed check, may be charged on Deposit Account 50-1290.

Respectfully submitted



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